

FINAL DRAFT/PROPOSED CAAPP PERMIT

Noveon, Inc.

I.D. No.: 123803AAD

Application No.: 96030152

September 17, 2003

217/782-2113

TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT
and
TITLE I PERMIT¹

PERMITTEE

Noveon, Inc.

Attn: Dave Giffin

1550 County Road, 1450 N

Henry, Illinois 61537-9706

Application No.: 96030152

I.D. No.: 123803AAD

Applicant's Designation:

Date Received: March 7, 1996

Operation of: Organic Chemical Manufacturing Plant

Date Issued: TO BE DETERMINED

Expiration Date²: DATE

Source Location: Rural Route, Henry, Marshall County

Responsible Official: Guy Davids, Site Manager

This permit is hereby granted to the above-designated Permittee to OPERATE a organic chemical manufacturing plant, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

If you have any questions concerning this permit, please contact Dan Punzak at 217/782-2113.

Donald E. Sutton, P.E.

Manager, Permit Section

Division of Air Pollution Control

DES:DGP:jar

cc: Illinois EPA, FOS, Region 2

¹ This permit may contain terms and conditions which address the applicability, and compliance if determined applicable, of Title I of the CAA and regulations promulgated thereunder, including 40 CFR 52.21 - federal PSD and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within this permit.

² Except as provided in Condition 8.7 of this permit.

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1.0 SOURCE IDENTIFICATION

1.1 Source

Noveon, Inc.
1550 County Road 1450 N
Henry, Illinois 61537-9706
309/364-

I.D. No.: 123803AAD
Standard Industrial Classification: 2869

1.2 Owner/Parent Company

Noveon, Inc.
9911 Brecksville Road
Cleveland, Ohio 44141-3247

1.3 Operator

Noveon, Inc.
1550 County Road 1450 N
Henry, Illinois 61537-9706

David E. Giffin
309/364-9411

1.4 General Source Description

The Noveon, Inc. manufacturing plant is located near Henry, Illinois on the Illinois River. The source manufactures organic chemicals, specifically antioxidants and accelerators to be used in the manufacture of rubber and plastics. In addition the source has storage tanks for raw material, intermediates and finished products and also operates a small boiler for process heat, and a wastewater treatment facility.

2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

| | |
|-------------------|--|
| Act | Illinois Environmental Protection Act [415 ILCS 5/1 et seq.] |
| AP-42 | Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711 |
| BBTS | N-tert-butyl-2-benzothiazyl sulfonamide |
| Btu | British thermal unit |
| CAA | Clean Air Act [42 U.S.C. Section 7401 et seq.] |
| CAAPP | Clean Air Act Permit Program |
| CAM | Compliance Assurance Monitoring |
| CFR | Code of Federal Regulations |
| Cl ₂ | Chlorine |
| CO | Carbon Monoxide |
| CO ₂ | Carbon Disulfide |
| CS ₂ | Carbon Dioxide |
| °F | degree Fahrenheit |
| Gal | Gallon |
| HAP | Hazardous Air Pollutant |
| HCl | Hydrogen Chloride |
| H ₂ S | Hydrogen Sulfide |
| hr | hour |
| IAC | Illinois Administrative Code |
| I.D. No. | Identification Number of Source, assigned by Illinois EPA |
| ILCS | Illinois Compiled Statutes |
| Illinois EPA | Illinois Environmental Protection Agency |
| kg | kilogram |
| kW | kilowatts |
| LAER | Lowest Achievable Emission Rate |
| lb | pound |
| MACT | Maximum Achievable Control Technology |
| MBDS | 4-Morpholinyl-a-benzothiazole disulfide |
| MBT-C | Mercapto-Benzothiazole |
| MBT-P | 2-Mercaptobenzothiazole Pure |
| MBTS | Benzothiazyl Disulfide |
| MeCl ₂ | Methylene Chloride |
| Mg | Megagram |
| min | minute |
| mo | month |
| MON | Miscellaneous Organic NESHAP |
| mmBtu | Million British thermal units |
| NaMBT | Sodium Mercapto-benzothiazole |

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| | |
|------------------|---|
| NaOH | Sodium Hydroxide |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NO _x | Nitrogen Oxides |
| NSPS | New Source Performance Standards |
| OBTS | N-oxydiethylene-2-benzothiazyl sulfonamide |
| PCl ₃ | Phosphorus Trichloride |
| PM | Particulate Matter |
| PM ₁₀ | Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods |
| ppm | parts per million |
| PSD | Prevention of Significant Deterioration |
| psia | pound per square inch absolute |
| RMP | Risk Management Plan |
| SO ₂ | Sulfur Dioxide |
| SOCMI | Synthetic Organic Chemicals Manufacturing Industries |
| T | Ton |
| T1 | Title I - identifies Title I conditions that have been carried over from an existing permit |
| T1N | Title I New - identifies Title I conditions that are being established in this permit |
| T1R | Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit |
| USEPA | United States Environmental Protection Agency |
| VOM | Volatile Organic Material |
| Yr | Year |

3.0 INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

- 3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a) (1) and 201.211, as follows:

| <u>Identification</u> | <u>Description</u> |
|-----------------------|---|
| Tank 5 | Fresh Toluene Storage Tank (6,000 Gal) |
| Tank 6 | Recycle Toluene Storage Tank (6,000 Gal) |
| Tank 9 | Vacuum Distillates Storage Tank (15,000 Gal) |
| Tank 14 | Aniline Storage Tank (30,000 Gal) |
| Tank 24 | Di-isobutylene Storage Tank (30,000 Gal) |
| Tank 31 | Phosphorus Trichloride Storage Tank (8,000 Gal) |
| | Dowtherm Boiler (8 mmBtu/hr) |

- 3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a) (2) or (a) (3), as follows:

| <u>Identification</u> | <u>Description</u> |
|-----------------------|---|
| Tank 2 | Diphenylamine Storage Tank (15,000 Gal) |
| Tank 3 | Antioxidant 3A Storage Tank (15,000 Gal) |
| Tank 7 | Antioxidant 3 Storage Tank (15,000 Gal) |
| Tank 8 | Nonylphenol Storage Tank (10,000 Gal) |
| Tank 16 | Pressurized Isobutylene Tank |
| Tank 19 | t-Butylamine Solution Storage Tank (15,000 Gal) |
| Tank 21 | Isopropanol Storage Tank (6,000 Gal) |
| Tank 23 | Morpholine Storage Tank (30,000 Gal) |
| Tank 32 | Benzothiozole Storage Tank |
| | Isobutylene and NaMBT Weigh Tanks |
| | Sulfur Storage Pit |
| | Semi-bulk Bag Cleaner |

50% Na MBT Process - This process is performed in multi-use equipment included in Section 7.0 but only emits evaporating water.

- 3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a) (4) through (18), as follows:

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Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Equipment used for filling drums, pails, or other packaging containers, excluding aerosol cans, with soaps, detergents, surfactants, lubricating oils, waxes, vegetable oils, greases, animal fats, glycerin, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(8)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Coating operations (excluding powder, architectural and industrial maintenance coating) with aggregate VOM usage that never exceeds 15 lbs/day from all coating lines at the source, including VOM from coating, dilutents, and cleaning materials [35 IAC 201.210(a)(13)].

Printing operations with aggregate organic solvent usage that never exceeds 750 gallons per year from all printing lines at the source, including organic solvent from inks, dilutents, fountain solutions, and cleaning materials [35 IAC 201.210(a)(14)].

Gas turbines and stationary reciprocating internal combustion engines of less than 112 kW (150 horsepower) power output [35 IAC 201.210(a)(15)].

Gas turbines and stationary reciprocating internal combustion engines of between 112 kW and 1,118 kW (150 and 1,500 horsepower) power output that are emergency or standby units [35 IAC 201.210(a)(16)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

Loading and unloading systems for railcars, tank trucks, or watercraft that handle only the following liquid materials, provided an organic solvent has not been mixed with such materials: soaps, detergents, surfactants, lubricating oils, waxes, glycerin, vegetable oils, greases, animal fats, sweetener, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(18)].

- 3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b).

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (Condition 5.2.2), the Permittee shall comply with the following requirements, as applicable:

- 3.2.1 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 215.182, 218.182, or 219.182.
- 3.2.2 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.
- 3.2.3 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 215.301, 218.301, or 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

3.3 Addition of Insignificant Activities

- 3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).
- 3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.
- 3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|-------------------------|---|------------------|--|
| EU711-0001 and 0002 | Two MBT-C Reactors and Two Blow Down Tanks | Pre-1972 | Flare CU711-0003 |
| EU711-0006 | NaMBT Reactor | Pre-1972 | Scrubber CU711-0004 |
| EU711-0008 | NaMBT Purification Process Whose Principal Vented Units Include an Extractor, a Surge Tank and a Decanter | 1977 | Vent Head Condenser CU711-0007 Vent Scrubber CU711-0006 with Covered Sump |
| EU711-0009 | NaMBT HAP/VOM Recovery Process Whose Principal Vented Units Include a Recovery Column and Holding Tanks | 1977 | Vent Head Condenser CU711-0007 Vent Scrubber CU711-0006 with Covered Sump |
| EU711-0010 | NaMBT Purification Batch Still Whose Principal Vented Units Include a Batch Still and Receiver Tanks | 1977 | Vent Head Condenser CU711-0007 Vent Scrubber CU711-0006 with Covered Sump |
| EU712-1001 | OBTS/MBDS Reactor 1 | Pre-1972 | Baghouse CU712-1001A (During solids addition) Condenser CU712-1001B (During Reaction) |
| EU712-1002 & EU712-1003 | OBTS Reactor #2 and Wash Tank | | Baghouse (CU712-1001A (During Solids Addition) Condenser CU712-1001B (During Reaction for OBTS or MBDS Running Separately) |
| EU712-1004 and 1005 | OBTS Flash Tank and Flash Tank Receiver (Under Vacuum Pressure) | Pre-1972 | Condenser CU712-1002 (Between Tank and Vacuum Receiver) |
| EU712-1007 | OBTS Product (flakes) Drying and Packaging System with Cylcone CU712-1003 (For Product Recovery) | Pre-1972 | Wet Scrubber CU712-1004 |
| EU712-1011 | Water/VOM Storage Tank (Feed Tank to Recovery Column) | Pre-1972 | None |

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| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|--|------------------|---|
| EU712-0012 | VOM Recovery Column, Recovery Condensers and VOM Receiver (Tank) | Pre-1972 | None |
| EU712-1101 (R #1 and 2) | MBTS/MBT-P/MBDS Solids Settling Reactors 1 and 2 | Pre-1972 | None |
| EU712-1102 | MBTS/MBDS/MBT-P Slurry Tank | Pre-1972 | None |
| EU712-1103 | MBTS/MBDS/MBT-P Drying and Packaging System with One Duct Collector for Product Recovery | Modified 1995 | Packaging System Dust Collector CU712-1102 |
| EU712-4001 and 4002 | 50% NaMBT Slurry/Hold Tank and Reactor and Water Condenser | Pre-1972 | None |
| EU712-5001 | 17% Bleach Reactor | Pre-1972 | None |
| EU725-8001, 8002 and 8003 | Reactor, Wash Tank and Crystallizer | 1984 | MeCl ₂ Recovery System (CU725-8001)/Tank Vent Condenser CU725-8002 |
| EU725-8004 | Filter Feed Tank and Sump | 1984 | Cover on Sump |
| EU725-8005 | Product Drying System/Grinder | 1984 | Dust Collector CU725-8003 |
| EU725-8007 | Pelletizing and Drying System | 1984 | Scrubber CU725-8004 |
| EU725-8008 | Pellet and Powder Baggers | 1984 | Baghouse CU725-8005 |
| EU725-8001 and 8003 | BBTS Reactor and Crystallizer | 1984 | VOM Recovery System CU725-8001 (To Sump) |
| EP725-8002 Fed by EU725-8002 and 8004 and CU725-8001 ^b | Sump Fed by Three Liquid Streams (Wash Tank, Filter Feed Tank and VOM Recovery) | 1984 | Cover on Sump CU725-8007 |
| EU712-3002 | AO3A Reactor/Hopper and Condenser CU712-3003 | Pre-1972 | Wet Scrubber CU712-3001 Condenser CU712-3004 |
| EU712-3003 | Slurry Tank and Condenser CU712-3002 | Pre-1972 | None |
| EU712-3005/3006 | Vacuum Stripper/Stripper Receiver, and Condenser CU712-3003 | Pre-1972 | Condenser CU712-3004 |

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| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|-------------------------------------|---|------------------|---|
| EU712-3013 | Phosphorus Trichloride Weigh Tank | Pre-1972 | Vapor Balance Line to Main PCl ₃ Storage Tank |
| EU712-3008 | AO3B and AO3 Reactor with Reflux Condensers CU712-3005 | Pre-1972 | Condenser CU712-3006, Jet Condenser CU712-3008, Wet Scrubber CU712-3007 |
| EU712-3011 | HCl Toluene Tank (AO3 Process Only) | Pre-1972 | Wet Scrubber CU712-3007 |
| EU712-6002 | Makeup Tank (Premix Tank for One Raw Material and Catalyst) | Pre-1972 | Scrubber CU712-6001 |
| EU712-6005 and CU712-6002 | Caustic/Product Decanter/Hold Tank and Vent Condenser (Reflux Back to Decanter) | Pre-1972 | None |
| EU712-6010/6011 and CU712-6007/6008 | Light Distillation Column/Receiver, Van Lube Column/Receiver and Two Condensers | Pre-1972 | Jet Condenser CU712-6009 |
| EU712-6007, CU712-6003/6004 | DIB Column/Receiver, Two Condensers Prior to Vacuum Jet | Pre-1972 | Jet Condenser CU712-6005 |
| EU712-6009, CU712-6006A | Dimmer Column/Receiver, One Condensers Prior to Vacuum Jet | Pre-1972 | Jet Condenser CU712-6006B |
| EU712-6009 | Crude Tank | Pre-1972 | None |
| EU712-6013 | Solidification/Packaging System | Pre-1972 | Dust Collector CU712-6010 |
| EU712-6014 | HAP Storage Tank | Pre-1972 | None |
| EU722-7003/7004/7005 | 3114 Vent Header (All Process Equipment with VOM Vapors are Ducted to this Header) to Vent Scrubber (CU722-7001) which is part of the recovery system | 1977 | Vent Scrubber CU722-7001 |
| EU722-7009 | 3114/3125 Dry Hopper/Packaging System | 1977 | Dust Collector (CU722-7004) |
| EU722-7101/7103 | 3125 Reactor/CU722-7101 Condenser/Vacuum Receiver and Thin Film Evaporator/CU722-7103 Condenser | 1977 | Three Condensers in Line, CU722-7102 Cover on Sump CU722-7106 |

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| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---------------------|--|------------------|--|
| EU722-7004/ 7005 | Crystallizer/Decanter/ Slurry Tank to Sump | 1977 | Cover on Sump CU722- 7106 |
| EU722-7008 | Dryers 1 & 2/Condenser CU722-7003/Receiver | 1977 | Condenser (CU722- 7105) and Cover on Sump (CU722-7106) |
| WWTF | Wastewater Treatment Facility | Pre-1972 | None |
| Tank 15 | Acetonitrile Storage Tank, 15,000 Gallons, Fixed Roof | 1977 | Submerged Loading Pipe |
| Tank 30 | Carbon Disulfide Storage Tank, 15,000 Gallons, Horizontal | Pre-1972 | Submerged Loading Pipe |
| Tank 31 | Phosphorus Trichloride Storage Tank, 8,000 Gallons, Fixed Roof | Pre-1972 | Scrubber |

5.0 OVERALL SOURCE CONDITIONS

5.1 Source Description

- 5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of VOM, SO₂ and HAP emissions.

5.2 Applicable Regulations

- 5.2.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions) of this permit.

- 5.2.2 In addition, emission units at this source are subject to the following regulations of general applicability:

- a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.

Compliance with this requirement is considered to be assured by the inherent nature of operations at this source, as demonstrated by historical operation.

- b. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.
- c. No person shall use any single or multiple compartment effluent water separator which receives effluent water containing 200 gal/day or more of organic material from any equipment processing, refining, treating, storing, or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere.
Exception: If no odor nuisance exists the limitations of this subparagraph shall not apply if

the vapor pressure of the organic material is below 2.5 psia at 70°F (35 IAC 215.141).

- d. No person shall cause or allow the discharge of more than 2 cu in of volatile organic liquid with vapor pressure of 2.5 psia or greater at 70°F in any 15 minute period (35 IAC 215.142).

5.2.3 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.2.4 Risk Management Plan

- a. This stationary source, as defined in 40 CFR Section 68.3, is subject to 40 CFR Part 68, the Accidental Release Prevention regulations [40 CFR 68.215(a)(1)].
- b. The owner or operator of a stationary source shall revise and update the RMP submitted, as specified in 40 CFR 68.190.

5.2.5 Future Requirements

- a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, or 63, or 35 IAC after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall

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certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by 40 CFR Part 70 or 71.

- b. No later than upon the submittal for renewal of this permit, the owner or operator shall submit, as part of an application, the necessary information to address either the non-applicability of, or demonstrate compliance with all applicable requirements of any potentially applicable regulation which was promulgated after the date issued of this permit.
- c. This stationary source will likely be subject to 40 CFR Part 63, the MON Rule if and when such rule becomes final and effective. The Permittee shall comply with the applicable requirements of such regulation by the date(s) specified in such regulation and shall certify compliance with the applicable requirements of such regulation as part of the annual compliance certification required by 40 CFR Part 70 or 71 beginning in the year that compliance is required under a final and effective rule.

5.2.6 Episode Action Plan

- a. If the source is required to have an episode action plan pursuant to 35 IAC 244.142, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144.
- b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared.
- c. If a change occurs at the source which requires a revision of the plan (e.g., operational change, change in the source contact person), a copy of the revised plan shall be submitted to the Illinois EPA for review within 30 days of the change. Such plans shall be further revised if disapproved by the Illinois EPA.

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- d. For sources required to have a plan pursuant to 35 IAC 244.142, a copy of the original plan and any subsequent revisions shall be sent to the Illinois EPA, Compliance Section.

5.2.7 CAM Plan

This stationary source has a pollutant-specific emissions unit that is subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources. The source must submit a CAM plan for each affected pollutant-specific emissions unit upon application for renewal of the initial CAAPP permit, or upon a significant modification to the CAAPP permit for the construction or modification of a large pollutant-specific emissions unit which has the potential post-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

5.3 Non-Applicability of Regulations of Concern

- 5.3.1 This permit is issued based on the source not being subject to 40 CFR Part 60, Subpart NNN (SOCMI Distillation Operations) or Subpart RRR (SOCMI Reactor Processes), because this source is a specialty chemical producer and none of the chemicals manufactured are listed in 40 CFR 60.667 or 60.707.
- 5.3.2 This permit is issued based on the source not being subject to 40 CFR 63 Subparts F, G, or H (HON Rule) because the source does not manufacture any of the SOCMI chemicals listed in Table 1 of Subpart F.
- 5.3.3 This permit is issued based on the source not being subject to 35 IAC Part 218, Subpart Q, V, or RR because the source is located in the part of the state regulated by Part 215 for VOM emissions. Parts 218/219, which only apply to VOM emissions in the Chicago or St. Louis Metropolitan areas, have specific limits for batch reactors, continuous reactors and distillation units, and miscellaneous organic chemical manufacturing process but Part 215 does not have these regulations.

5.4 Source-Wide Operational and Production Limits and Work Practices

In addition to the source-wide requirements in the Standard Permit Conditions in Section 9, the Permittee shall fulfill the following source-wide operational and production limitations and/or work practice requirements:

None

5.5 Source-Wide Emission Limitations

5.5.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. These limitations (Condition 5.5.1) are set for the purpose of establishing fees and are not federally enforceable.

Permitted Emissions of Regulated Pollutants

| Pollutant | Tons/Year |
|------------------------------------|-----------|
| Volatile Organic Material (VOM) | 863.72 |
| Sulfur Dioxide (SO ₂) | 4,922.01 |
| Particulate Matter (PM) | 96.00 |
| Nitrogen Oxides (NO _x) | 64.19 |
| HAP, not included in VOM or PM | 46.57 |
| Total | 5,992.49 |

5.5.2 Emissions of Hazardous Air Pollutants

Source-wide emission limitations for HAPs as listed in Section 112(b) of the CAA are not set. This source is considered to be a major source of HAPs.

5.5.3 Other Source-Wide Emission Limitations

Other source-wide emission limitations are not set for this source pursuant to either the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, Illinois EPA rules for Major Stationary Sources Construction and Modification, 35 IAC Part 203, or Section 502(b)(10) of the CAA. However, there may be unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

5.6 General Recordkeeping Requirements

5.6.1 Emission Records

The Permittee shall maintain records of the following items for the source to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

Total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions) of this permit.

5.6.2 Records for Operating Scenarios

N/A

5.6.3 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.
- c. The Permittee is only required to produce records for periods of time when the unit is operating. For those periods when the process is not operating, information must be provided confirming that the process is not operating.

5.7 General Reporting Requirements

5.7.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the source with the permit requirements as follows, pursuant to Section 39.5(7)(f)(iii) of the Act. Reports shall describe the

probable cause of such deviations, and any corrective actions or preventive measures taken.

5.7.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information for the previous calendar year.

5.7.3 Annual Reporting of HAP Emissions

The Permittee shall submit an annual report to the Illinois EPA, Compliance Section, on HAP emissions from the source. This shall be included with the Annual Emission Report required by Condition 5.7.2.

5.8 General Operational Flexibility/Anticipated Operating Scenarios

- a. Pursuant to the provision of Condition 8.4.2, the source has the flexibility to use any of the existing equipment as a pilot plant to produce new products for a period up to 90 days. Such use as a pilot plant is not a modification but written notice as required by Condition 8.4.2 must be provided.
- b. This provision for use as a pilot plant to make new products is valid for 90 days beginning with the first day of production. The production of the pilot plant material must continue to comply with applicable regulations. Emissions during pilot plant production must be included in the annual emission report (Condition 9.7).
- c. Actions taken during a general utility failure to begin shutdown of the source is not considered operation during a malfunction or breakdown.

5.9 General Compliance Procedures

5.9.1 General Procedures for Calculating VOM Emissions

Compliance with the source-wide emission limits specified in Condition 5.5 shall be based on the recordkeeping and reporting requirements of Conditions 5.6 and 5.7, and compliance procedures in Section 7 (Unit Specific Conditions) of this permit.

- a. For the purpose of estimating VOM emissions from the storage tanks, the current version of the USEPA TANKS program is acceptable.

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- b. For the purpose of estimating fugitive VOM emissions from component leaks at the source, the emission factors found in "AP-42" published by USEPA on the Technology Transfer Network bulletin board are acceptable.
- c. For the purpose of estimating HAP emissions from equipment at the source, the vapor weight percent (based on a 1992 USEPA survey) of each HAP for each organic liquid times the VOM emissions contributed by that organic liquid is acceptable.

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6.0 NOT APPLICABLE TO THIS PERMIT

7.0 UNIT SPECIFIC CONDITIONS

In this permit, the terms filter, baghouse and dust collector are considered to be equivalent forms of control for emission purposes although there may be functional differences.

Unless otherwise stated, all processes are manufactured in batch reactors. There may be associated processes after the reaction phase that are semi-continuous. For instance the products from one batch or several batches may be continuously fed to a filter to remove sediment/unreacted raw materials/impurities but the filter may then be opened to replace the filter media. Packaging of a final solid (powder) product is frequently a continuous process.

This type of process filter to remove particles from a liquid product is not the same as an air pollution control device called filter that separates dust from an air stream although the principle is similar.

7.1 Unit: MBT-C and NaMBT Processes Control: Flare, Scrubber

7.1.1 Description

The MBT-C process involves an organic chemical reacting with sulfur and carbon disulfide (CS_2). A reflux condenser returns a portion of the CS_2 to the system. Hydrogen sulfide (H_2S) is also a product of the reaction and it is vented to a flare through a blow down tank. The flare also burns CS_2 and thus the main products of the flare are SO_2 , CO_2 and water.

The contents of the MBT-C reactor are transferred to the blow down tank and then to the NaMBT reactor where a reaction occurs with caustic, i.e., sodium hydroxide (NaOH). A caustic solution is also used in the scrubber to capture some H_2S which dissolves out of the reactant. H_2S is not generated by the reaction in the NaMBT reactor.

7.1.2 List of Emission Units and Air Pollution Control Equipment

| Emission Unit | Description ^a | Emission Control Equipment |
|---------------------|--|----------------------------------|
| EU711-0001 and 0002 | Two MBT-C Reactors and Two Blow Down Tanks | Flare ^b CU711-0003 |
| EU711-0006 | NaMBT Reactor | Scrubber ^c CU711-0004 |

^a The principal emitting units are listed here but there may be low-emitting units in the process line that are not individually listed such as weigh tanks, hold tanks, knock-out pots, etc. that are covered by this permit.

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- ^b There is a reflux condenser between each reactor and its respective blow down tank but reflux condensers (CU711-0001 and 0002) are not considered to be pollution control equipment. Each reactor vents through its respective blow down tank which is then vented to the flare.
- ^c Caustic scrubbant for trace H₂S removal.

7.1.3 Applicability Provisions and Applicable Regulations

- a. An "affected MBT-C or NaMBT reactor" for the purpose of these unit-specific conditions is a reactor identified in Condition 7.1.2.
- b. Each affected reactor is subject to the emission limits identified in Condition 5.2.2.
- c. Each affected MBT-C reactor/blow down tank system is subject to 35 IAC 215.143.

This rule states that:

No person shall cause or allow the emission of organic material into the atmosphere from any vapor blow down system or any safety relief valve, except such safety relief valves not capable of causing an excessive release, unless such emission is controlled:

- i. to 10 ppm equivalent methane (molecular weight 16.0) or less; or,
- ii. By combustion in a smokeless flare; or
- iii. By other air pollution control equipment approved by the Illinois EPA according to the provisions of 35 Ill. Adm. Code 201.

No other air pollution control equipment has been approved by the Illinois EPA.

- d. Each affected MBT-C reactor/blow down tank system is subject to 35 IAC 214.301. This rule requires that emissions of sulfur dioxide into the atmosphere from any process emission source shall not exceed 2,000 ppm.

7.1.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected MBT-C or NaMBT processes not being subject to the New Source Performance Standards (NSPS) for SOCMR Reactors, 40 CFR Part 60, Subpart RRR, because the affected reactors do not produce any of the chemicals listed in 40 CFR 60.707.
- b. This permit is issued based on the affected MBT-C or NaMBT processes not being subject to 35 IAC 215.301, because the affected units emit only aniline and carbon disulfide as the organic chemicals and neither of these is a "photochemically reactive material" as defined in 35 IAC 211.4690 and there is currently no odor nuisance.

7.1.5 Control Requirements and Work Practices

- a. The flare shall be operated in a manner to remain smokeless pursuant to the definition in 35 IAC 211.6050, that is, an opacity reading of less than 20%. This is required to comply with Condition 7.1.3(c), i.e., 35 IAC 215.143(b).
- b. The flare shall be operated to convert 99% of the H_2S , CS_2 and any other organic material to water, CO_2 and SO_2 .

7.1.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected MBT-C and NaMBT processes are subject to the following:

N/A

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.1.7 Testing Requirements

Upon request by the Illinois EPA, the opacity of the flare discharge shall be measured using USEPA Method 9 to verify that the flare is being operated as a smokeless flare.

7.1.8 Monitoring Requirements

- a. The flare shall be equipped with a thermocouple to measure a combustion flame in the flare.
- b. The flare shall also be equipped with a camera to observe the presence of a flame. In the event of a flameout an audible alarm shall sound in the control room.
- c. The scrubber shall have a meter for measuring flow of scrubbant.

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected MBT-C or NaMBT processes to demonstrate compliance with Conditions 5.5.1 and 7.1.8, pursuant to Section 39.5(7) (b) of the Act:

- a. The thermocouple need only record the presence of a flame, not an exact temperature.
- b. Any time the camera detects no flame, a log entry shall be made explaining the circumstances.
- c. Raw material usages and stoichiometric balance showing emissions of VOM, CS₂, H₂S and sulfur to the flare (lb/mo).
- d. Emissions of VOM, SO₂ and H₂S after flare combustion reflecting 99% destruction by the flare (lb/mo).
- e. Daily entry of scrubbant flow rate verifying operation of the unit when the NaMBT reactor is in operation.

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected MBT-C or NaMBT process with the permit requirements as follows, pursuant to Section 39.5(7) (f) (ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Operation of an MBT-C reactor without the flare in operation.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.1.12 Compliance Procedures

Emissions shall be calculated using raw material usage rates and a stoichiometric conversion, i.e., based on chemical equation for conversion, with excess raw materials, solvents and gases formed by the reaction being 99% destroyed by the flare and converted to SO₂ and other nonpollutants.

7.1.13 Construction Schedule

- a. The Permittee disputes the Illinois EPA contention that the condensers do not qualify as a system designed to remove sulfur compounds from the flue gases of petrochemical processes as allowed by 35 IAC 214.382. Notwithstanding, the Permittee has submitted a schedule for installation of equipment that will greatly reduce emissions of SO₂ and thus comply with 35 IAC 214.301. The specific equipment will be a sulfur recovery system in which the sulfur compounds in the flue gases that are currently oxidized to SO₂ will instead be converted to sulfur, a low value but saleable material. Some off gases from the recovery system are still converted to SO₂.

This system is a known technology but complicated because the feed stream is from batch not continuous processes, and carbon disulfide (CS₂) is present.

The Permittee shall, if needed, apply for revision of this permit to address the resolution of any outstanding issue, e.g., include a new construction schedule, identify appropriate applicable requirements, or establish new requirements, if such issues cannot be properly addressed in a construction permit.

- b. The MBT-C process shall comply with the following schedule of compliance to address compliance with the alleged violations of 35 IAC 214.301:

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| Milestone | Timing |
|--|--|
| The Permittee shall obtain authority for expenditure of funds from its Board of Directors and submit a construction permit application for the sulfur recovery system. | No later than April 1, 2004. |
| The Permittee shall sign a contract for construction of the sulfur recovery system. | No later than August 1, 2004. |
| The Permittee shall achieve compliance with all applicable requirements (35 IAC 214.301). | No later than August 1, 2005 the equipment shall be operating. An additional six months may be allowed for emission testing and approval of the emission test results, if necessary. |

c. Submittal of Progress Reports

A Progress Report shall be submitted every six months, beginning six months from the date of issuance of this permit. The Progress Report shall contain at least the following:

- i. The required timeframe for achieving the milestones in the schedules for construction, and actual dates when such milestones were achieved.
- ii. An explanation of why required timeframe in the schedule of compliance was not met, and any corrective measures adopted.

7.2 Unit: NaMBT Purification System
Control: Scrubber

7.2.1 Description

The 34% NaMBT produced by the equipment in Section 7.1 is purified by an extraction process. The extractant is both a HAP and VOM and it removes tars and impurities from the 34% NaMBT. The HAP/VOM containing the impurities is fed to a recovery column which recovers clean HAP/VOM. The bottoms, which contain HAP/VOM and concentrated impurities is sent to a batch still.

Essentially all vents from the extraction process, HAP/VOM recovery and batch still are vented to a scrubber (Venturi type). The condensers on the batch still system are classified as process condensers and not control equipment, except for the vent head condenser.

7.2.2 List of Emission Units and Air Pollution Control Equipment

| Emission Unit | Description ^a | Emission Control Equipment |
|---------------|---|---|
| EU711-0008 | NaMBT Purification Process Whose Principal Vented Units Include an Extractor, a Surge Tank and a Decanter | Vent Head Condenser CU711-0007 Vent Scrubber CU711-0006 with Covered Sump |
| EU711-0009 | NaMBT Toluene Recovery Process Whose Principal Vented Units Include a Recovery Column and Holding Tanks | Vent Head Condenser CU711-0007 Vent Scrubber CU711-0006 with Covered Sump |
| EU711-0010 | NaMBT Purification Batch Still Whose Principal Vented Units Include a Batch Still and Receiver Tanks | Vent Head Condenser CU711-0007 Vent Scrubber CU711-0006 with Covered Sump |

^a The principal emitting units are listed here but there may be low-emitting units in the process line that are not individually listed such as weigh tanks, hold tanks, knock-out pots, etc. that are covered by this permit.

7.2.3 Applicability Provisions and Applicable Regulations

- a. The "affected NaMBT purification process", for the purpose of these unit-specific conditions, is a

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process in which a previously manufactured product is purified and the chemicals used for the purification are recover for reuse. The units involved in the process are listed in Condition 7.2.2.

- b. Each affected unit is subject to the emission limits identified in Condition 5.2.2.
- c. Each affected unit is subject to 35 IAC 215.301/302. Although the process has three distinct subunits, as described in Condition 7.2.2, since there is one control unit for all the distinct subunits, the process is treated as one unit for determining compliance with this rule.

This rule states an emission unit may not discharge more than 8 lb/hr of VOM into the atmosphere, if the VOM is photochemically reactive, unless controlled by 85%. The VOM in this process is photochemically reactive. The Venturi scrubber is other pollution control equipment approved by the Illinois EPA, capable of reducing uncontrolled emission by 85% and thus complies with 35 IAC 215.302(c). Alternatively, uncontrolled emissions are likely to be below 8 lb/hr, as explained below.

Emissions are determined by a material balance.

7.2.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected NaMBT purification process not being subject to the New Source Performance Standards (NSPS), 40 CFR Part 60, Subpart NNN (SOCMI distillation), because the affected process does not produce a chemical listed in 40 CFR 60.667 and the process was constructed prior to December 30, 1983, the applicability date for Subpart NNN.
- b. This permit is issued based on the affected NaMBT purification process not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected NaMBT purification process does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels, 10 tons/yr as the material is a HAP. See explanation in Condition 7.2.3(c).

7.2.5 Control Requirements

The Permittee shall follow good operating practices for the vent head condenser and vent scrubber, including periodic inspection, routine maintenance and prompt repair of defects.

7.2.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected NaMBT purification process is subject to the following:

N/A

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.2.7 Operating Requirements

The process condensers on the batch still and other equipment vented to the condenser and vent scrubber shall be operated so that uncontrolled VOM emissions from the vent scrubber do not exceed 8 lb/hr or 10 ton/yr.

7.2.8 Inspection Requirements

None

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected NaMBT purification process to demonstrate compliance with Conditions 5.5.1 and 7.2.7, pursuant to Section 39.5(7)(b) of the Act:

- a. Records addressing use of good operating practices for the vent head condenser and vent scrubber:
 - i. Records for period inspection of the vent head condenser and vent scrubber including the date and individual performing the inspection and the nature of the inspection; and

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- ii. Records for prompt repair of defects, with identification and description of the defect, the effect on emissions, date identified and date of repair, and the nature of the repair.
- b. Twelve month rolling average calculation of extracting solvent loss (lb/mo).

7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected NaMBT purification process with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Twelve month rolling average solvent loss exceeding 600 pounds. This level is not a direct indication of noncompliance with Condition 7.2.3(c) but the process must be reviewed for possible changes in the system that caused the increase and an evaluation if emissions could be exceeding 8 lb/hr.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.2.12 Compliance Procedures

Emissions of VOM shall be calculated by a twelve month rolling average material balance on extraction solvent and if emissions are below a specified value then compliance with the applicable rules is assumed.

7.3 Unit: Building 712 - Accelerator Production
Control: Condensers, Scrubbers, and Dust Collectors

7.3.1 Description

The products manufactured by the Permittee are used as rubber additives, i.e., they confer desirable properties to the rubber used in tires and other products. A group of these products are called accelerators. Many of the processes made in Building 712 begin with the materials discussed in Sections 7.1 and 7.2.

There are several of these accelerators and in some cases the same equipment is used to make two different products. The reactors are all batch reactors. The most common pollutants are VOM and PM. The PM may come from a solid being added to the reactor or processing of the final product in solid (powder) form. Specific products are discussed below.

These processes are flexible with regard to use of equipment. For example, products A and B may be made in the same reactors. A and C may use a common drying and packaging system, while B and D use another common system.

OBTS

OBTS is a product manufactured by reacting NaMBT (production of which is discussed in Section 7.2) with morpholine and an oxidizer in a VOM medium.

The baghouse on the reactor is used only during the addition of a solid reactant prior to the actual reaction phase. The VOM is controlled by condensers during the reaction. The VOM recovery column has process condensers (one a subcooler) to recover VOM, which is then reused in the process. The product is a solid material controlled by a scrubber during solidification and packaging. A cyclone also assists in recovering product.

MBTS

MBTS production also begins with NaMBT which reacts with an oxidizer and other materials. The oxidizer is a HAP but the reactor is not vented during the reaction phase and there is also sodium hydroxide present in the reactor to absorb the excess HAP.

MBT-P

MBT-P is a reaction of NaMBT with sulfuric acid. The emissions are PM, not VOM. The same reactors are used as for MBTS.

17% Bleach Process

This is a reaction of chlorine (Cl_2) with sodium hydroxide (NaOH). The chlorine is introduced below the surface of the NaOH and the reaction stopped before there would be measurable emissions of Cl_2 . Bleach is an intermediate product and not a final product.

7.3.2 List of Emission Units and Air Pollution Control Equipment

| Emission Unit | Description ^a | Emission Control Equipment |
|-------------------------|---|---|
| EU712-1001 | OBTS/MBDS Reactor 1 | Baghouse CU712-1001A (During solids addition) Condenser ^b CU712-1001B (During reaction) |
| EU712-1002 & EU712-1003 | OBTS Reactor #2 and Wash Tank | Baghouse CU712-1001A (During solids addition) Condenser ^b CU712-1001B (During reaction for OBTS or MBDS running separately) |
| EU712-1004 and 1005 | OBTS Flash Tank and Flash Tank Receiver (Under vacuum pressure) | Condenser ^b CU712-1002 (Between tank and vacuum receiver) |
| EU712-1007 | OBTS Product (flakes) Drying and Packaging System with Cyclone (For product recovery) | Wet Scrubber CU712-1004 |
| EU712-1011 | Water/VOM Storage Tank (Feed tank to recovery column) | None |
| EU712-1012 | VOM Recovery Column, Recovery Condensers and VOM Receiver (Tank) | None |
| EU712-1101 (R #1 and 2) | MBTS/MBT-P/MBDS Reactors 1 and 2 | None |

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| Emission Unit | Description ^a | Emission Control Equipment |
|------------------------|--|---|
| EU712-1102 | MBTS/MBDS/MBT-P) Slurry Tank | None |
| EU712-1103 | MBTS/MBDS/MBT-P Drying and Packaging System with One Dust Collector for Product Recovery | Packaging System Dust Collector CU712-1102 |
| EU712-4001 and 4002 | 50% NaMBT Slurry/Hold Tank and Reactor and Water Condenser | None |
| EU712-5001 | 17% Bleach Reactor | None |

^a The principal emitting units are listed here but there may be low-emitting units in the process line that are not individually listed such as weigh tanks, hold tanks, knock-out pots, etc. that are covered by this permit.

^b These condensers are classified as control devices but could also be classified as material recovery units since the condensed material is reused after recovery. A determination of which type of condenser it is does not have to be made since compliance is not dependent on a determination.

7.3.3 Applicability Provisions and Applicable Regulations

- a. The "affected Building 712 accelerator production process" for the purpose of these unit-specific conditions, is the process identified in Condition 7.3.2.
- b. Each affected process is subject to the emission limits identified in Condition 5.2.2.
- c. The two packaging and drying systems are subject to 35 IAC 212.321 which regulates PM emissions. This rule is written out in Attachment 1. Although the reactors for these processes were operating prior to 1972, the packaging system has been modified since 1972 to make it subject to 35 IAC 212.321 rather than Section 212.322.

7.3.4 Non-Applicability of Regulations of Concern

Of the process listed in Condition 7.3.2, only EU712-1001 and 1002, EU712-1004 and 1005, EU712-1011 and EU712-1012, EU712-1101 and EU712-1102 emit VOM. Although these processes could be subject to 35 IAC 215.301/302, they are not because the VOM used is not photochemically reactive pursuant to the definition in 35 IAC 211.4690. The Permittee could also become subject if there were an odor nuisance, but currently there is not one.

7.3.5 Control Requirements

The Permittee shall follow good operating practices for the condenser, baghouse, dust collector and wet scrubber, including periodic inspection, routine maintenance and prompt repair of defects.

7.3.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected Building 712 accelerator processes (Line 1 and pipeline dryer dust collector) are subject to the following:

| <u>Pollutant</u> | <u>Emissions (Tons/Year)</u> |
|------------------------------------|----------------------------------|
| VOM (Line 1) | 58.11 |
| PM (Line 1) | 19.60 |
| PM (Pipeline Dryer Dust Collector) | 9.33 |

These limits are based on maximum production rates including that the number of batches of MBDS not exceeding 6 per day and 584 per year.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations were established in Permit 00030067, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.3.7 Testing Requirements

Upon request by the Illinois EPA the PM emissions from the drying and packaging system shall be tested using appropriate USEPA test methodology to demonstrate compliance with Condition 7.3.3(c).

7.3.8 Monitoring Requirements

- a. The dust collectors on the drying and packaging system shall be equipped with a device for measuring pressure drop across the bags (filters).
- b. Each condenser, whether a process or control unit, shall be equipped with a device for measuring either outlet temperature on the product side or the temperature of the coolant.
- c. The scrubber shall be equipped with a device for measuring the scrubbant flow rate through the scrubber.

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected Building 712 accelerator process to demonstrate compliance with Conditions 5.5.1 and 7.7.3(c), pursuant to Section 39.5(7)(b) of the Act:

- a. Pressure drop across the dust collectors (once/day) when operating.
- b. Exit temperature of process and control condensers or temperature of coolant (once/day).
- c. Scrubbant flow rate (once/day).
- d. Sufficient data to be able to calculate loss of VOM by material balance (once/month, twelve month rolling average).
- e. Process weight rate for PM emitting processes so that an allowable emission rate can be determined per Condition 7.3.3(c).
- f. Records addressing use of good operating practices for the condenser, baghouse, dust collector and wet scrubber:

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- i. Records for periodic inspection of the condenser, baghouse, dust collector and wet scrubber including the date and individual performing the inspection and the nature of the inspection; and
 - ii. Records for prompt repair of defects, with identification and description of the defect, the effect on emissions, date identified and date of repair, and the nature of the repair.
- g. VOM and PM emissions (lb/month and twelve monthly rolling average).

7.3.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected accelerator product drying and packaging processes with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Emissions of PM exceeding the allowable of Condition 7.3.3(c).

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected Building 712 accelerator processes without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Any of the process units may manufacture any product for which they are currently permitted to manufacture at any ratio. Allowable emissions are not based on limiting any specific product. Altering the product mix is not a modification. New products, such a carbofet, may be manufactured provided that their emission rate does not exceed the highest emission rate of any current products.

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7.3.12 Compliance Procedures

Operation with process or control condenser, scrubber or
process or control baghouse within normal operating range
assures compliance with regulations.

7.4 Unit: Building 725 Accelerator Processes
Control: Condenser, Dust Collector and Scrubber

7.4.1 Description

Two products are produced in Building 725. They are called Cure-Rite 18 (C-18) and BBTS and both are solids and thus both emit PM. The major emissions for the C-18 process are a reaction medium called methylene chloride (MeCl_2), which is a HAP but not a VOM. For BBTS the emissions are a raw material which is a VOM, but not a HAP. Both the VOM and MeCl_2 have a recovery process step. Other accelerators such as MBTS and MBT-P can also be manufactured in this process equipment. Only PM emissions are emitted during their manufacture.

The same equipment is used for producing both products although some equipment may only be used for one of the processes.

The reactors are batch processes but final product drying and bagging may be done on a continuous process basis.

7.4.2 List of Emission Units and Air Pollution Control Equipment

| Emission Unit | Description ^a | Emission Control Equipment |
|---|---|--|
| EU725-8001, 8002 and 8003 | C-18 Reactor, Wash Tank and Crystallizer | MeCl_2 Recovery System CU725-8001/Tank Vent Condenser ^b CU725-8002 |
| EU725-8004 and EP725-8002 | Filter Feed Tank and Sump | Cover on Sump |
| EU725-8005 | Product Drying System/Grinder | Dust Collector CU725-8006 |
| EU725-8007 | Pelletizing and Drying System | Scrubber CU725-8004 |
| EU725-8008 | Pellet and Powder Baggers | Baghouse CU725-8005 |
| EU725-8001 and 8003 ^c | BBTS Reactor and Crystallizer | VOM Recovery System CU725-8001 (To Sump) |
| EP725-8002 Fed by EU725-8002 and 8004 and CU725-8001 ^b | Sump Fed by Three Liquid Streams (Wash Tank, Filter Feed Tank and VOM Recovery) | Cover on Sump CU725-8007 |

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- ^a The principal emitting units are listed here but there may be low-emitting units in the process line that are not individually listed such as weigh tanks, hold tanks, knock-out pots, etc. that are covered by this permit.
- ^b The methylene chloride (MeCl_2) recovery system has a number of vessels such as a decanter, tank, column and process condensers, but these eventually all vent through this tank vent condenser. Although listed here as control equipment, this is not an official determination with regard to possible future rules (e.g., MON, CAM) that the condenser is control equipment.
- ^c As explained in the description, the equipment for this BBTS process uses the same equipment as the C-18 process. The equipment numbers listed here for the reaction/filtering part of the process have been relisted since the emission reduction and/or control systems are different. The drying/bagging units are not relisted since they are essentially identical.

7.4.3 Applicability Provisions and Applicable Regulations

- a. The "affected C-18 or BBTS process" for the purpose of these unit-specific conditions are two processes which use the same process equipment to produce two materials. This equipment is listed in Condition 7.4.2.
- b. Each affected unit is subject to the emission limits identified in Condition 5.2.2.
- c. Each product drying, palletizing and drying system and pellet or powder baggers is subject to 35 IAC 212.321. This rule is written out in Attachment 1.

7.4.4 Non-Applicability of Regulations of Concern

This permit is issued based on the affected C-18 or BBTS processes not being subject to 35 IAC 215.301, because the affected processes do not emit a VOM that is photochemically reactive pursuant to the definition in 35 IAC 211.4690 and the source and/or this process is not considered to be an odor nuisance. Methylene chloride is not a VOM but is a HAP.

7.4.5 Control Requirements

The Permittee shall follow good operating practices for the recovery system, vent condenser, baghouse, dust collector, sump cover, and scrubber, including periodic inspection, routine maintenance and prompt repair of defects.

7.4.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected C-18 or BBTS processes are subject to the following:

Emissions of volatile organic material (VOM), methylene chloride (MeCl₂) particulate matter (PM) shall not exceed the amounts specified in the Table below.

| <u>Emission Source/Control</u> | <u>Annual Emissions (Tons/Year)</u> | | |
|--------------------------------|-------------------------------------|-------------------------|-----------|
| | <u>VOM</u> | <u>MeCl₂</u> | <u>PM</u> |
| Tank Vent Condenser | ----- | 78.6 | ----- |
| Covered Sump | 71.75 | 5.28 | ----- |
| Dust Collector Vent | ----- | 0.19 | 11.55 |
| Scrubber Vent | ----- | ----- | 11.55 |
| Tank TK-2B1 | 0.41 | ----- | ----- |
| Baghouse Vent | ----- | ----- | 11.55 |

These limits are based on the production of Cure-Rite 18 not exceeding 600 batches/year and production of BBTS not exceeding 2,667 batches/year.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

The above limitations were established in Permit 84050066, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.4.7 Testing Requirements

Upon request by the Illinois EPA, the emissions of PM from product drying, palletizing and drying system, or pellet and powder baggers shall be determined using standard USEPA methodology to determine compliance with 35 IAC 212.321 (Condition 7.4.3(c)).

7.4.8 Monitoring Requirements

- a. The dust collectors on the drying system and the bagging system shall be equipped with a device for measuring pressure drop across the bags (filters).
- b. Each condenser, whether a process or control unit, shall be equipped with a device for measuring either outlet temperature on the product side or the temperature of the coolant. For units that use the same coolant, one monitor shall be considered sufficient.
- c. Each scrubber/adsorber shall be equipped with a flow meter for measuring the scrubbant flow rate.

7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected C-18 or BBTS process to demonstrate compliance with Conditions 5.5.1 and 7.4.3(c), pursuant to Section 39.5(7)(b) of the Act:

- a. Condenser outlet or coolant temperature (once/day).
- b. Scrubbant flow rate (once/day).
- c. Pressure drop across the dust collectors (once/day) when operating.
- d. Batches processed per year.
- e. Raw material usages including HAP reaction medium (lb/mo, twelve month rolling average).
- f. Sufficient data to determine percent recovery of HAPs and net loss by material balance (lb/mo, twelve month rolling average).

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- g. Process weight rate for PM emitting processes so that an allowable can be determined per Condition 7.4.3(c).
- h. Records addressing use of good operating practices for the recovery system, vent condenser, baghouse, dust collector, sump cover and scrubber:
 - i. Records for periodic inspection of the recovery system, vent condenser, baghouse, dust collector, sump cover and scrubber including the date and individual performing the inspection and the nature of the inspection; and
 - ii. Records for prompt repair of defects, with identification and description of the defect, the effect on emissions, date identified and date of repair, and the nature of the repair.
- i. VOM, HAP and PM Emissions (lb/mo, twelve monthly rolling average).

7.4.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected C-18 or BBTS process with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

PM emissions exceeding the allowable of Condition 7.4.3(c).

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to an affected C-18 or BBTS processes without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

The same equipment is used for two products and these may be produced in any ratio provided the limit in Condition 5.5.1 is not exceeded, specifically the HAP emissions for fees was based on an estimated 600 batches per year of C-18.

7.4.12 Compliance Procedures

Operation with process or control condenser, scrubber or process or control baghouse within normal operating range assures compliance with regulations.

HAP emissions shall be determined by a material balance, i.e., any material not recovered is considered emitted.

Such material balance shall be determined on a twelve month rolling average except that the fee for HAPs that are not also PM or VOM is determined for a calendar year.

VOM emissions are based on a material balance but with a majority of the VOM raw materials converted to product.

Such material balance shall be determined on a twelve month rolling average.

PM emissions are based on filter manufacturer's estimated emission rate (usually in grains/scf) times flow rate of air through the dust collectors.

7.5 Unit: Antioxidant 3 Production
Control: Condensers and Scrubbers

7.5.1 Description

AO is an abbreviation for antioxidant. The final product, AO3, is made by reacting three intermediate chemicals, AO3A, AO3B and AO4. AO4 is made in the same equipment as AO3A but AO4 has insignificant emissions (see Section 3.1), less than 0.1 lb/batch, due to the low vapor pressure of the reactants/product. The PM emissions are from addition of a powder material to reactor. AO3A production uses a VOM/HAP material as a reaction medium, which is then recovered. AO3B and AO3 are produced in common equipment.

7.5.2 List of Emission Units and Air Pollution Control Equipment

| Emission Unit | Description ^a | Emission Control Equipment |
|-----------------|--|---|
| EU712-3002 | AO3A Reactor/Hopper and Condenser ^b CU712-3003 | Wet Scrubber ^b CU712-3001, Condenser ^c CU712-3004 |
| EU712-3003 | Slurry Tank and Condenser CU712-3002 | None |
| EU712-3005/3006 | Vacuum Stripper/Stripper Receiver, and Condenser ^b CU712-3003 | Condenser ^c CU712-3004 |
| EU712-3013 | Phosphorus Trichloride Weigh Tank | Vapor Balance Line to Main PCl ₃ Storage Tank |
| EU712-3008 | AO3B and AO3 Reactor with Reflux Condensers CU712-3005 | Condenser CU712-3006, Jet Condenser CU712-3008, Wet Scrubber for HCl CU712-3007 |
| EU712-3011 | HCl Toluene Tank (AO3 Process Only) | Wet Scrubber for HCl CU712-3007 |

^a The principal emitting units are listed here but there may be low-emitting units in the process line that are not individually listed such as weigh tanks, hold tanks, knock-out pots, etc. that are covered by this permit.

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- ^b The scrubber is used during solids addition only, not during reaction. Scrubber is intended for employee hygiene purposes.
- ^c Condensers used only during vacuum distillate recovery.

7.5.3 Applicability Provisions and Applicable Regulations

- a. The "affected antioxidant 3 production processes" for the purpose of these unit-specific conditions, are batch processes that occur in multi-use equipment and listed in Condition 7.5.2.
- b. Each affected process is subject to the emission limits identified in Condition 5.2.2.
- c. The AO3A and AO3 production processes are subject to 35 IAC 215.301/302. This rule requires that VOM emissions, if photochemically reactive pursuant to 35 IAC 211.4690, shall either not exceed 8 lb/hr or be controlled by 85%. The Permittee has two condensers on this process and the VOM is photochemically reactive. Without determining if these condensers are control devices or material recovery devices (There are some of each listed in Condition 7.5.2), the units are in compliance because if the condensers are control equipment the VOM removal efficiency is greater than 85% and if the condensers are not control equipment, the emissions are well below 8 lb/hr.

7.5.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected antioxidant 3 process not being subject to any of the New Source Performance Standards (NSPS), 40 CFR Part 60, because the affected process was operational prior to adoption of any NSPS, that could affect chemical processes.
- b. The AO3A process is not subject to 35 IAC 212.322 because PM is emitted only during a brief time when a raw material is introduced into the reactor and the PM emission rate could not be reasonably tested during that time period by acceptable USEPA test methodology. The PM emissions are controlled by a scrubber for employee hygiene purposes. The emissions are also inside a building.

The AO3 and AO3B processes do not emit any PM.

7.5.5 Control Requirements and Work Practices

- a. The condensers shall be operated in accordance with design parameters so as to recover VOM or other materials for reuse. The second condenser shall use brine as a coolant material (i.e., below ambient temperature).
- b. The scrubber on the A03 and A03B processes shall be operated to remove a minimum of 99% of the HCl vented to it.
- c. The Permittee shall follow good operating practices for the condensers and scrubbers, including periodic inspection, routine maintenance and prompt repair of defects.

7.5.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected antioxidant 3 production processes are subject to the following:

Emissions from the affected jet condenser (CU712-3008) and wet scrubber (CU712-3007) shall not exceed the following limits:

VOM Emissions
(Tons/Year)

3.12

These limits are based on the maximum rate.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1]

The above limitations were established in Permit 72121018, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.5.7 Testing Requirements

- a. Upon request by the Illinois EPA the vent after the condensers shall be tested to verify that the emissions are under 8 lb/hr using standard USEPA test methodology or are reduced by at least 85% by equipment considered air pollution control equipment.
- b. Upon request by Illinois EPA the scrubber shall be tested to verify HCl removal efficiency or final HCl concentration using standard USEPA test methodology.

7.5.8 Monitoring Requirements

- a. The wet scrubber shall be equipped with a device for measuring scrubbant flow through the scrubber.
- b. The condenser shall be equipped with a device for measuring either outlet temperature of the secondary condenser or for measuring the condenser coolant inlet temperature. Condensers that have a common coolant may have one measuring point.

7.5.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected antioxidant 3 process to demonstrate compliance with Conditions 5.5.1 and 7.4.8, pursuant to Section 39.5(7)(b) of the Act:

- a. Condenser outlet or coolant temperature (°F, daily);
- b. Scrubber flow rate (gal/min, once each batch);
- c. Records addressing use of good operating practices for the condensers and scrubbers:
 - i. Records for period inspection of the condenser and scrubbers including the date and individual performing the inspection and the nature of the inspection; and
 - ii. Records for prompt repair and defects, with identification and description of the defect, the effect on emissions, date identified and date of repair, and the nature of the repair.

- d. Production (lb/mo); and
- e. VOM and HCl emissions (lb/mo, twelve month rolling average).

7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected antioxidant 3 process with the permit requirements as follows, pursuant to Section 39.5(7)(f)(iii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Monthly material balance for VOM indicates emissions may have exceeded 8 lb/hr or less than 85% recovery if there is control equipment.
- b. Operation of the equipment vented to the scrubber when it was determined that scrubbant flow rate was not at the normal rate.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected antioxidant 3 process without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

This process is already authorized to make two intermediates in one reactor system and one intermediate and the final product in another reactor system. The ratio of batches is fixed by the composition of the final product.

7.5.12 Compliance Procedures

Operation with the condensers at normal operating temperature and with scrubbant through the scrubber assures compliance with applicable regulations. Emissions are based on material balance from many years of experience manufacturing the product.

7.6 Unit: Stalite (Antioxidant 1) Process
Control: Scrubber and Dust Collector

7.6.1 Description

There are several variations on a product called Stalite but there is only one reactor. The reactor is a closed system with no emissions. The primary emissions are from downstream processing, VOM from distillation to remove impurities and PM from solidification/packaging. Some of the products are solids while others are viscous liquids.

The distillations are usually performed under vacuum conditions and some condensers are for material recovery purposes and are not considered to be control equipment, but most condensers are control equipment.

7.6.2 List of Emission Units and Air Pollution Control Equipment

| Emission Unit | Description ^a | Emission Control Equipment |
|-------------------------------------|---|----------------------------|
| EU712-6002 | Makeup Tank (Premix Tank for One Raw Material and Catalyst) | CU712-6001 Scrubber |
| EU712-6005 and CU712-6002 | Caustic/Product Decanter and Vent Condenser (Reflux Back to Decanter) | None |
| EU712-6010/6011 and CU712-6007/6008 | Light Distillation Column/Receiver, Van Lube Column/Receiver and Two Condensers | Jet Condenser CU712-6009 |
| EU712-6007, CU712-6003/6004 | DIB Column/Receiver, Two Condensers Prior to Vacuum Jet | Jet Condenser CU712-6005 |
| EU712-6008, CU712-6006A | Dimmer Column/Receiver, One Condenser Prior to Vacuum Jet | Jet Condenser CU712-6006B |
| EU712-6009 | Crude Tank | None |
| EU712-6013 | Solidification/Packaging System | Dust Collector CU712-6010 |
| EU712-6014 | HAP Storage Tank | None |

^a The principal emitting units are listed here but there may be low-emitting units in the process line that are not individually listed such as weigh tanks, hold tanks, knock-out pots, etc. that are covered by this permit.

7.6.3 Applicability Provisions and Applicable Regulations

- a. The "affected Stalite process unit" for the purpose of these unit-specific conditions, is a process for manufacturing Stalite and identified in Condition 7.6.2.
- b. The affected Stalite process unit is subject to the emission limits identified in Condition 5.2.2.
- c. The affected columns and decanter are subject to 35 IAC 215.301/302. This rule requires that if VOM emissions are photochemically reactive pursuant to the definition of 35 IAC 211.4690, that emissions be either below 8 lb/hr or reduced by 85% by control equipment. The VOM in this process is photochemically reactive. If the condensers are not considered to be control equipment, the VOM emissions after the condensers may not exceed 8 lb/hr, as averaged over each batch cycle. If the condensers are control equipment, the VOM emissions must be controlled by 85% of emissions after the condenser be less than 8 lb/hr.
- d. The solidification/packaging system is subject to 35 IAC 212.322. This rule is written out in Attachment 1.

7.6.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected Stalite process not being subject to any New Source Performance Standards (NSPS), 40 CFR Part 60, because the affected Stalite process was constructed before any NSPS (e.g., SOCM I reactors, distillation units) were implemented. All later changes were insufficient to classify the changes as a major modification. In addition, although the product is an organic chemical, it does not qualify as affected synthetic organic chemical.
- b. This permit is issued based on the affected make-up tank not being subject to 35 IAC 212.322, because the affected make-up tank only emits PM during a brief time that catalyst is being added to the tank and the unit could not be tested pursuant to standard USEPA methodology. A scrubber controls PM primarily for employee hygiene purposes.

7.6.5 Control and Operational Requirements

- a. The dust collector on the solidification/packaging system shall be operated in accordance with manufacturer's specification so as to comply with Condition 7.6.3(d).
- b. If the condensers are not considered to be control equipment, the condensers shall be operated in accordance with manufacturer's specification so that photochemically reactive VOM emissions do not exceed 8 lb/hr.
- c. If the condensers are considered to be control equipment, the condensers shall be operated in accordance with manufacturer's specifications so that photochemically reactive VOM emissions are reduced by 85% or emissions do not exceed 8 lb/hr.
- d. The CU712-6004 condenser shall use a coolant that is below ambient temperature.
- e. The Permittee shall follow good operating practices for the dust collector, condenser, and scrubber, including periodic inspection, routine maintenance and prompt repair of defects.

7.6.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected Stalite process is subject to the following:

N/A

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.6.7 Testing Requirements

Upon request by the Illinois EPA, the emissions of PM from the solidification/packaging system shall be determined using standard USEPA methodology to determine compliance with 35 IAC 212.321 (Condition 7.6.3(d)).

Upon request by the Illinois EPA, the emissions of photochemically reactive VOM from the columns or decanter shall be determined using standard USEPA methodology to determine compliance with 35 IAC 215.301 (Condition 7.6.3(c)).

7.6.8 Monitoring Requirements

- a. The dust collector shall be equipped with a device for measuring pressure drop across the bags.
- b. Each process condenser shall be equipped with a device for measuring either outlet temperature on the product side or the temperature of the coolant. For units that use the same coolant, one monitor shall be considered sufficient.

7.6.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected Stalite process unit to demonstrate compliance with Conditions 5.5.1 and 7.6.8, pursuant to Section 39.5(7) (b) of the Act:

- a. Condenser outlet or coolant temperature (once/day);
- b. Pressure drop across the dust collectors (once/day)
- c. Records addressing use of good operating practices for the dust collector, condenser and scrubber:
 - i. Records for period inspection of the dust collector, condenser and scrubber including the date and individual performing the inspection and the nature of the inspection; and
 - ii. Records for prompt repair of defects, with identification and description of the defect, the effect on emissions, date identified and date of repair, and the nature of the repair.
- d. Raw material usages (lb/mo)
- e. Process weight rate for the solidification/packaging process so that an allowable can be determined per Condition 7.4.3(c); and
- f. VOM, HAP and PM emissions (lb/mo, twelve monthly rolling average).

7.6.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected Stalite process unit with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. VOM emissions exceeding the allowable of Condition 7.6.3(c).
- b. PM emissions exceeding the allowable of Condition 7.6.3(d).

7.6.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected Stalite process units without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

This equipment is authorized to make four variations of similar products. These may be made in any ratio, i.e., from 0 to 100% of each of the individual variations.

7.6.12 Compliance Procedures

Operation with process condenser, scrubber or control baghouse within normal operating range assures compliance with regulations.

VOM emissions are based on material balance but with a majority of the VOM raw materials converted to product.

PM emissions are based on filter manufacturer's estimated emission rate (usually in grains/scf) times flow rate of air through the dust collectors.

7.7 Unit: Building 722 Antioxidant Processes
Control: Condensers and Dust Collector

7.7.1 Description

Two products called Antioxidants 3114 and 3125 are produced in equipment that has common components so only one product can be made at any given time. 3114 accounts for over 95% of total production. Both products are solids and both use a reaction medium, which is recovered. On a per batch basis emissions from the 3125 process are much higher but since many more batches of 3114 are produced, overall emissions from that process are higher. Most of the 3114 VOM emissions (the reaction medium) are also a HAP, while only a minor fraction of the 3125 emissions are HAPs. The material recovered from the 3125 process is a byproduct.

7.7.2 List of Emission Units and Air Pollution Control Equipment

| Emission Unit | Description ^a | Emission Control Equipment |
|----------------------|---|---|
| EU722-7003/7004/7005 | 3114 Vent Header (All Process Equipment with VOM Vapors are Ducted to this Header) to Vent Scrubber (CU722-7001) which is part of the recovery system | Vent Scrubber CU722-7001 |
| EU722-7009 | 3114/3125 Dry Hopper/Packaging System | Dust Collector CU722-7004 |
| EU722-7101/7103 | 3125 Reactor/CU722-7101 Condenser/Vacuum Receiver and Thin Film Evaporator/CU722-7103 Condenser | Three Condensers in Line, CU722-7102 Cover on Sump CU722-7106 |
| EU722-7004/7005 | Crystallizer/Decanter/Slurry Tank to Sump | Cover on Sump CU722-7106 |
| EU722-7008 | Dryers 1 & 2/Condenser CU722-7003/Receiver | Condenser CU722-7105 and Cover on Sump CU722-7106 |

^a The principal emitting units are listed here but there may be low-emitting units in the process line that are not individually listed such as weigh tanks, hold tanks, knock-out pots, etc. that are covered by this permit.

7.7.3 Applicability Provisions and Applicable Regulations

- a. The "affected Building 722 antioxidants line" for the purpose of these unit-specific conditions, is a process line for manufacturing two products using common equipment for many processes and identified in Condition 7.7.2.
- b. The affected process line is subject to the emission limits identified in Condition 5.2.2.
- c. The dry hopper/packaging system is subject to 35 IAC 212.322. This rule is written out in Attachment 1.

7.7.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected Building 722 antioxidant process not being subject to any of the New Source Performance Standards (NSPS), 40 CFR Part 60, because the affected processes were operational prior to adoption of any NSPS that affect chemical processes.
- b. This permit is issued based on neither of the Building 722 antioxidant processes being subject to 35 IAC 215.301, because none of the VOMs emitted are considered photochemically reactive pursuant to the definition in 35 IAC 211.4690 and there is no odor nuisance from this process.
- c. This permit is issued based on the affected Building 722 antioxidant process not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected process is not subject to an emission limitation or standard for VOM and HAP and this process uses inherent process equipment that is not considered a control device because the equipment is used for material recovery and is installed and operated primarily for purposes other than compliance with air pollution regulations.

7.7.5 Control Requirements, Work Practices and Production Limits

- a. The condensers, whether a control device or material recovery, shall be operated in accordance with design parameters, so as to minimize VOM and HAP emissions.

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- b. The sumps shall be operated with the cover in place during any period when the 3125 process is operating.
- c. The dust collector shall be operated to meet compliance with Condition 7.7.3(c).
- d. The number of batches of product 3125 produced shall not exceed 50 per year. This is in accordance with the application and assures that 3125 process is not subject to a CAM plan until and if a NESHAP that affects the specific process is adopted.
- e. The Permittee shall follow good operating practices for the condensers, dust collector, sump cover, and vent scrubber, including periodic inspection, routine maintenance and prompt repair of defects.

7.7.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected Building 722 antioxidant process is subject to the following:

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.7.7 Testing Requirements

Upon request by the Illinois EPA the dry hopper/packaging system shall be tested for PM emissions to verify that emissions comply with Condition 7.7.3(c) using standard USEPA test methodology. This may involve a separate test for each product (3114 or 3125).

7.7.8 Monitoring Requirements

- a. The vent scrubber shall be equipped with a device for measuring scrubbant flow rate through the scrubber.
- b. Each condenser, whether a control device or for material recovery, shall be equipped with a device for measuring either outlet temperature on the condenser or for measuring the condenser coolant inlet temperature. Condensers that use a common coolant may have one measuring point.

- c. The dust collector shall be equipped with a device for measuring pressure drop across the bags.

7.7.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected Building 722 antioxidant process to demonstrate compliance with Conditions 5.5.1 and 7.7.3, pursuant to Section 39.5(7)(b) of the Act:

- a. Condenser outlet or coolant temperature (°F, daily);
- b. Scrubber flow rate (gal/min, once each batch);
- c. Pressure drop across the dust collector bags (once/day);
- d. Records addressing use of good operating practices for the condensers, dust collector, sump cover, and vent scrubber:
 - i. Records for period inspection of the vent condensers, dust collector, sump cover, and vent scrubber including the date and individual performing the inspection and the nature of the inspection; and
 - ii. Records for prompt repair of defects, with identification and description of the defect, the effect on emissions, date identified and date of repair, and the nature of the repair.
- e. Number of batches of each product;
- f. Production (lb/mo); and
- g. VOM and HAP emissions (lb/mo, twelve month rolling average).

7.7.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected Building 722 antioxidant process with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

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- a. Operation of the equipment vented to the wet scrubber when it was determined that scrubbant flow was not at the normal rate.
- b. Abnormal operation of a control or material recovery condenser such that greater than 50% of normal daily emissions were emitted.

7.7.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected Building 722 antioxidant process without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

The equipment for this process is permitted to operate in two modes of production but number of batches of one product are limited by Condition 7.7.5(d).

7.7.12 Compliance Procedures

Operation with the condensers at normal operating temperature, with scrubbant through the scrubber at normal rates and pressure drop across the dust collector at normal rate assures compliance with applicable regulations. Emissions are based on material balance from many years of experience manufacturing the product.

7.8 Unit: Wastewater Treatment Facility
Control: None

7.8.1 Description

The Permittee operates a wastewater treatment facility (WWTF) for treatment of process wastewaters to meet NPDES limits. In addition to its own wastewater, the treatment facility also treats process wastewater from the adjacent Poly One Company. Poly One is required to pretreat their wastewater to meet a NESHAP for vinyl chloride prior to entering the Permittee's treatment facility.

The Permittee's WWTF consist of several emission units that provide pretreatment, equalization, primary treatment, secondary treatment, and tertiary treatment. Pretreatment includes pH adjustment and hydrogen peroxide oxidation. Primary treatment includes pH control, chemical addition, coagulation, flocculation, and primary clarification. Secondary treatment consists of biological treatment, chemical addition, and secondary clarification. The tertiary treatment is and filtration. The treated effluent is then discharged to the Illinois River.

7.8.2 List of Emission Units and Air Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---------------|--|----------------------------|
| WWTF | Wastewater Treatment Facility ^a | None |

^a Although classified as one group operation above, the facility consists of the following units, each of which is an emission unit:

1. Curtie Equalization Tank
2. PC Equalization Tank
3. Poly One Equalization Tank
4. Poly One Diversion Tank
5. pH Neutralization Tank
6. Polymer Addition Tank
7. Flocculation Tank
8. Primary Clarifier
9. Primary Clarifier Overflow Tank
10. Four Biotreaters (4)
11. Biotreater Mix Tank

12. Secondary Clarifier
13. Traveling Bed Sandfilter (2)
14. Sludge Press/Tanks (2)
15. Sludge Dewatering Pit

7.8.3 Applicability Provisions and Applicable Regulations

- a. The "affected wastewater treatment facility" for the purpose of these unit-specific conditions, is the above listed equipment used to treat water so that it can be discharged into the river.
- b. The affected WWTF is subject to the emission limits identified in Condition 5.2.2.
- c. The affected wastewater treatment facility is subject to 35 IAC 215.301. This rule requires that if the VOM emissions are photochemically reactive pursuant to the definition of 35 IAC 211.4690 that emissions from each unit not exceed 8 lb/hr. Since there is currently no control equipment, the alternative to comply with 35 IAC 215.302 by reducing VOM emissions by 85% is not an option.

7.8.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected WWTF not being subject to 40 CFR Part 63, Subpart F, G and H, because the affected WWTF primary treats wastewater from production of chemicals not listed in Table 1 of Subpart F and the one process that is on Table 1 is pretreated by the adjacent source so that the process wastewater does not meet the requirements of a Group 1 wastewater stream as defined in 40 CFR 63.132(a)(2).
- b. The affected WWTF is not subject to the NSPS for Sewage Treatment Plants, 40 CFR 60 Subpart O, because there is no incinerator that combusts wastes containing more than 10 percent sewage sludge (dry basis) produced by municipal sewage treatment plants, or an incinerator that charges more than 1,000 kg (2,205 lb) per day municipal sewage sludge (dry basis) associated with this affected wastewater treatment plant.
- c. The affected WWTF is not subject to the NSPS for VOC Emissions from Petroleum Refinery Wastewater Systems, 40 CFR 60 Subpart QQQ, because the affected wastewater plant is not located at a petroleum refinery.
- d. The affected WWTF is not subject to 35 IAC 215.443, Wastewater (Oil/Water) Separator, because the affected

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wastewater treatment plant is not located at a petroleum refinery.

- e. This permit is issued based on the affected WWTF not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected WWTF is not subject to an emission limitation or standard for the applicable regulated air pollutant and does not use an add-on control device.

7.8.5 Control Requirements

None

7.8.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected WWTF is subject to the following:

N/A

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.8.7 Operating Requirements

None

7.8.8 Inspection Requirements

None

7.8.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected WWTF to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

A monthly mass balance (12 month rolling average) of VOMs to the waste treatment system of primary organic materials.

7.8.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected WWTF with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the

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probable cause of such deviations, and any corrective actions or preventive measures taken:

N/A

7.8.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.8.12 Compliance Procedures

- a. Emissions of VOM from the WWTF, excluding the equalization tank shall be calculated using the WATER8 computer program.
- b. VOM emissions from the equalization tank shall be calculated based on estimated mass influent from all processes and the effluent concentration from the equalization tank.

7.9 Unit: Storage Tanks
Control: Submerged Loading Pipe

7.9.1 Description

There are two storage tanks that contain HAPs and do not qualify for the exemption as insignificant units under 35 IAC 201.210(a)(1) and 201.211(a). However, emissions are still low as one material is stored under a nitrogen blanket, one is more dense than water and stored under water, and the other tank has a scrubber.

7.9.2 List of Emission Units and Air Pollution Control Equipment

| Emission Unit | Description | Emission Control Equipment |
|---------------|--|---|
| Tank 15 | Acetonitrile Storage Tank, 15,000 Gallons, Fixed Roof | Submerged Loading Pipe and Vapor Balance Line |
| Tank 30 | Carbon Disulfide Storage Tank, 15,000 Gallons, Horizontal Stored Under Water | Submerged Loading Pipe |
| Tank 31 | Phosphorus Trichloride Storage Tank, 8,000 Gallons, Fixed Roof | Scrubber |

7.9.3 Applicability Provisions and Applicable Regulations

- a. The "affected storage tanks" for the purpose of these unit-specific conditions, are storage tanks less than 20,000 gallons and listed in Condition 7.9.2.
- b. Each affected storage tank is subject to the emission limits identified in Condition 5.2.2.
- c.
 - i. No person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe, submerged fill, or an equivalent device approved by the Illinois EPA according to the provisions of 35 IAC 201 or unless such tank is a pressure tank as described in 35 IAC 215.121(a) or is filled with a recovery system as described in 35 IAC 215.121(b)(2) [35 IAC 215.122(b)].
 - ii. Exception: If no odor nuisance exists the limitations of Condition 7.3.3(c) shall only apply to the loading of volatile organic

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liquid with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F) [35 IAC 214.122(c)].

7.9.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected storage tanks not being subject to the New Source Performance Standards (NSPS) for petroleum liquid storage tanks, 40 CFR Part 60, Subpart K, because the affected storage tanks do not contain petroleum liquids and have a capacity of less than 151 cubic meters. Subpart Kb applies to all volatile organic liquid storage tanks but these tanks were constructed prior to the applicable date of July 23, 1984 and have a capacity of less than 76 cubic meters.
- b. This permit is issued based on the affected storage tanks not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected storage tanks do not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.
- c. This permit is issued on the affected Tank 31 not being subject to 35 IAC 215.122(b) because all Part 215 rules regulate only VOMs and phosphorus trichloride is not a VOM. It is a HAP.

7.9.5 Control Requirements

The Permittee shall not load PCL_3 from a tank truck into the storage tank when the scrubber is not operating or is malfunctioning.

7.9.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected storage tanks are subject to the following:

N/A

There are no specific emission limitations for this unit, however, there are source wide emission limitations in Condition 5.5 that include this unit.

7.9.7 Operating Requirements

None

7.9.8 Inspection Requirements

None

7.9.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for each affected storage tank to demonstrate compliance with Condition 7.1.3(c), pursuant to Section 39.5(7)(b) of the Act:

- a. Design information for any tank holding a material with a vapor pressure over 2.5 psia showing the presence of a permanent submerged loading pipe.
- b. Tank throughput (gal/yr).
- c. VOM emissions for each tank (lb/yr).

7.9.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected storage tank with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

Determining that a tank containing a material with a vapor pressure of greater than 2.5 psia was loaded without the use of a permanent submerged loading pipe.

7.9.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.9.12 Compliance Procedures

Emissions of VOM shall be calculated using the USEPA TANKS program (version 4.0 or any updates).

8.0 GENERAL PERMIT CONDITIONS

8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after _____ **{insert public notice start date}** (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

As of the date of issuance of this permit, there are no such economic incentive, marketable permit or emission trading programs that have been approved by USEPA.

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

- a. The changes do not violate applicable requirements;
- b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;
- c. The changes do not constitute a modification under Title I of the CAA;
- d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and
- e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:
 - i. Describe the physical or operational change;
 - ii. Identify the schedule for implementing the physical or operational change;
 - iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;
 - iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
 - v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Condition 8.6.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

If monitoring is required by any applicable requirements or conditions of this permit, a report summarizing the required monitoring results, as specified in the conditions of this permit, shall be submitted to the Air Compliance Section of the Illinois EPA every six months as follows [Section 39.5(7)(f) of the Act]:

| <u>Monitoring Period</u> | <u>Report Due Date</u> |
|--------------------------|------------------------|
| January - June | September 1 |
| July - December | March 1 |

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

- a. The name and identification of the affected unit(s);
- b. The person(s) who will be performing sampling and analysis and their experience with similar tests;

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- c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;
- d. The specific determination of emissions and operation which are intended to be made, including sampling and monitoring locations;
- e. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods;
- f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and
- g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

- a. The name and identification of the affected unit(s);
- b. The date and time of the sampling or measurements;
- c. The date any analyses were performed;
- d. The name of the company that performed the tests and/or analyses;
- e. The test and analytical methodologies used;
- f. The results of the tests including raw data, and/or analyses including sample calculations;
- g. The operating conditions at the time of the sampling or measurements; and

- h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

- a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:
 - i. Illinois EPA - Air Compliance Section

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (MC 40)
P.O. Box 19276
Springfield, Illinois 62794-9276
 - ii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614
 - iii. Illinois EPA - Air Permit Section

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
P.O. Box 19506
Springfield, Illinois 62794-9506
 - iv. USEPA Region 5 - Air Branch

USEPA (AE - 17J)
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604
- b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

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8.7 Obligation to Comply with Title I Requirements

Any term, condition, or requirement identified in this permit by T1, T1R, or T1N is established or revised pursuant to 35 IAC Part 203 or 40 CFR 52.21 ("Title I provisions") and incorporated into this permit pursuant to both Section 39.5 and Title I provisions. Notwithstanding the expiration date on the first page of this permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule [Section 39.5(7)(j)(iv) of the Act].

9.1.2 In particular, this permit does not alter or affect the following:

- a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;
- b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and
- d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless such malfunction or breakdown is allowed by a permit condition [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated thereunder.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Section 39.5(7)(a) and (p)(ii) of the Act and 415 ILCS 5/4]:

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- a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- d. Sample or monitor any substances or parameters at any location:
 - i. At reasonable times, for the purposes of assuring permit compliance; or
 - ii. As otherwise authorized by the CAA, or the Act.
- e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and
- f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply with Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7) (o) (iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12) (b) (iv) of the Act].

9.6.3 Retention of Records

- a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].
- b. Other records required by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Section, Air Regional Field Office, and USEPA Region 5 - Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

- a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.
- b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.
- c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as an attachment to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

- a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:
 - i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency. Normally, an act of God such as lightning or flood is considered an emergency;
 - ii. The permitted source was at the time being properly operated;
 - iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.

b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, reopened, and reissued, for cause pursuant to Section 39.5(15) of the Act. The filing of a request by the Permittee for a permit modification, revocation, and reissuance, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

- a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;
- b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;

- c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and
- d. The Illinois EPA or USEPA determines that this permit must be revised to ensure compliance with the applicable requirements of the Act.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under Section 39.5(15)(b) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable, and should any one or more be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected. The rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

The right to operate terminates on the expiration date unless the Permittee has submitted a timely and complete renewal application. For a renewal to be timely it must be submitted no later than 9 and no sooner than 12 months prior to expiration. The equipment may continue to operate during the renewal period until final action is taken by the Illinois EPA, in accordance with the original permit conditions [Section 39.5(5)(1), (n), and (o) of the Act].

10.0 ATTACHMENTS

10.1 Attachment 1 - Allowable Emissions of Particulate Matter

- a. Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321(b)].

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in the following equation:

$$E = A(P)^B$$

Where:

P = Process weight rate;
E = Allowable emission rate; and,

- i. For process weight rate up to 450 ton/hour:

| | <u>Metric</u> | <u>English</u> |
|---|---------------|----------------|
| P | Mg/hr | T/hr |
| E | kg/hr | lbs/hr |
| A | 1.214 | 2.54 |
| B | 0.534 | 0.534 |

- ii. For aprocess weight rate under 100 lb/hr (0.05 ton), the allowable is 0.55 lb/hr.

- b. Process Emission Units Which Were Existing Prior to April 14, 1972 [356 IAC 212.322(b)].

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced prior to April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in the following equation:

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Application No.: 96030152

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$$E = C + A(P)^B$$

Where:

P = Process weight rate;

E = Allowable emission rate; and,

i. For process weight rate up to 30 ton/hour:

| | <u>Metric</u> | <u>English</u> |
|---|---------------|----------------|
| P | Mg/hr | T/hr |
| E | kg/hr | lbs/hr |
| A | 1.985 | 4.10 |
| B | 0.67 | 0.67 |
| C | 0 | 0 |

ii. For process weight rate in excess of 30 ton/hour:.

| | <u>Metric</u> | <u>English</u> |
|---|---------------|----------------|
| P | Mg/hr | T/hr |
| E | kg/hr | lbs/hr |
| A | 25.21 | 55.0 |
| B | 0.11 | 0.11 |
| C | - 18.4 | - 40.0 |

iii. For a process weight rate under 100 lb/hr (0.05 tons), the allowable is 0.55 lb/hr.

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10.2 Attachment 2 - Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: _____

Official Title: _____

Telephone No.: _____

Date Signed: _____

10.3 Attachment 3 - Guidance on Revising This Permit

The Permittee must submit an application to the Illinois EPA using the appropriate revision classification in accordance with Sections 39.5(13) and (14) of the Act and 35 IAC 270.302. Specifically, there are currently three classifications for revisions to a CAAPP permit. These are:

1. Administrative Permit Amendment;
2. Minor Permit Modification; and
3. Significant Permit Modification.

The Permittee must determine, request, and submit the necessary information to allow the Illinois EPA to use the appropriate procedure to revise the CAAPP permit. A brief explanation of each of these classifications follows.

1. Administrative Permit Amendment
 - Corrects typographical errors;
 - Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
 - Requires more frequent monitoring or reporting by the Permittee;
 - Allows for a change in ownership or operational control of the source where no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Illinois EPA;
 - Incorporates into the CAAPP permit a construction permit, provided the conditions of the construction permit meet the requirements for the issuance of CAAPP permits; or
 - Incorporates into the CAAPP permit revised limitations or other requirements resulting from the application of an approved economic incentives rule, marketable permits rule, or generic emissions trading rule.

2. Minor Permit Modification

- Do not violate any applicable requirement;
- Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
- Do not require a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis;
- Do not seek to establish or change a permit term or condition for which there is no corresponding underlying requirement and which avoids an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the CAA; and
 - An alternative emissions limit approved pursuant to regulations promulgated under Section 112(i)(5) of the CAA.
- Are not modifications under any provision of Title I of the CAA; and
- Are not required to be processed as a significant permit modification.

An application for a minor permit modification shall include the following:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
- The source's suggested draft permit/conditions;
- Certification by a responsible official that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and

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- Information as contained on form 271-CAAPP for the Illinois EPA to use to notify USEPA and affected States.

3. Significant Permit Modification

- Applications that do not qualify as either minor permit modifications or as administrative permit amendments;
- Applications requesting a significant change in existing monitoring permit terms or conditions;
- Applications requesting a relaxation of reporting or recordkeeping requirements; and
- Cases in which, in the judgment of the Illinois EPA, action on an application for modification would require decisions to be made on technically complex issues.

An application for a significant permit modification shall include the following:

- A detailed description of the proposed change(s), including all physical changes to equipment, changes in the method of operation, changes in emissions of each pollutant, and any new applicable requirements which will apply as a result of the proposed change. Note that the Permittee need only submit revised forms for equipment and operations that will be modified.

The Illinois EPA requires the information on the following appropriate forms to be submitted in accordance with the proper classification:

- Form 273-CAAPP, REQUEST FOR ADMINISTRATIVE PERMIT AMENDMENT FOR CAAPP PERMIT; or
- Form 271-CAAPP, MINOR PERMIT MODIFICATION FOR CAAPP PERMIT; or
- Form 200-CAAPP, APPLICATION FOR CAAPP PERMIT (for significant modification).

Application forms can be obtained from the Illinois EPA website at <http://www.epa.state.il.us/air/forms>.

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Note that the request to revise the permit must be certified for truth, accuracy, and completeness by a responsible official.

Note that failure to submit the required information may require the Illinois EPA to deny the application. The Illinois EPA reserves the right to require that additional information be submitted as needed to evaluate or take final action on applications pursuant to Section 39.5(5)(g) of the Act and 35 IAC 270.305.



Illinois Environmental Protection Agency
Division Of Air Pollution Control -- Permit Section
P.O. Box 19506
Springfield, Illinois 62794-9506

| | |
|---|----------------------------------|
| Application For Construction Permit (For CAAPP Sources Only) | For Illinois EPA use only |
| | I.D. number: |
| | Permit number: |
| | Date received: |

This form is to be used by CAAPP sources to supply information necessary to obtain a construction permit. Please attach other necessary information and completed CAAPP forms regarding this construction/modification project.

| Source Information | | |
|---|--------------|-----------------|
| 1. Source name: | | |
| 2. Source street address: | | |
| 3. City: | 4. Zip code: | |
| 5. Is the source located within city limits? <input type="checkbox"/> Yes <input type="checkbox"/> No | | |
| 6. Township name: | 7. County: | 8. I.D. number: |

| Owner Information | | |
|-------------------|------------|---------------|
| 9. Name: | | |
| 10. Address: | | |
| 11. City: | 12. State: | 13. Zip code: |

| Operator Information (if different from owner) | | |
|--|------------|---------------|
| 14. Name | | |
| 15. Address: | | |
| 16. City: | 17. State: | 18. Zip code: |

| Applicant Information | |
|---|--|
| 19. Who is the applicant? <input type="checkbox"/> Owner <input type="checkbox"/> Operator | 20. All correspondence to: (check one) <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Source |
| 21. Attention name and/or title for written correspondence: | |
| 22. Technical contact person for application: | 23. Contact person's telephone number: |

This Agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 et seq. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

| Summary Of Application Contents | |
|---------------------------------|---|
| 24. | Does the application address whether the proposed project would constitute a new major source or major modification under each of the following programs: a) Non-attainment New Source Review – 35 IAC Part 203; b) Prevention of Significant Deterioration (PSD) – 40 CFR 52.21; c) Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources – 40 CFR Part 63? |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 25. | Does the application identify and address all applicable emissions standards, including those found in the following: a) Board Emission Standards – 35 IAC Chapter I, Subtitle B; b) Federal New Source Performance Standards – 40 CFR Part 60; c) Federal Standards for Hazardous Air Pollutants – 40 CFR Parts 61 and 63? |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 26. | Does the application include a process flow diagram(s) showing all emission units and control equipment, and their relationship, for which a permit is being sought? |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 27. | Does the application include a complete process description for the emission units and control equipment for which a permit is being sought? |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 28. | Does the application include the information as contained in completed CAAPP forms for all appropriate emission units and air pollution control equipment, listing all applicable requirements and proposed exemptions from otherwise applicable requirements, and identifying and describing any outstanding legal actions by either the USEPA or the Illinois EPA? Note: The use of "APC" application forms is not appropriate for applications for CAAPP sources. CAAPP forms should be used to supply information. |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 29. | If the application contains TRADE SECRET information, has such information been properly marked and claimed, and have two separate copies of the application suitable for public inspection and notice been submitted, in accordance with applicable rules and regulations? |
| | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable, No TRADE SECRET information in this application |

Note 1: Answering "No" to any of the above may result in the application being deemed incomplete.

| Signature Block | |
|--|--------------------|
| This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. | |
| 30. I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete. Authorized Signature: | |
| BY: | |
| _____ | _____ |
| AUTHORIZED SIGNATURE | TITLE OF SIGNATORY |
| _____ | _____/_____/_____ |
| TYPED OR PRINTED NAME OF SIGNATORY | DATE |

Note 2: An operating permit for the construction/modification permitted in a construction permit must be obtained by applying for the appropriate revision to the source's CAAPP permit, if necessary.

I. INTRODUCTION

This source has applied for a Clean Air Act Permit Program (CAAPP) operating permit for its existing operation. The CAAPP is the program established in Illinois for the operating permits for significant stationary sources required by the federal Clean Air Act, as amended in 1990. The conditions in a CAAPP permit are enforceable by both the Illinois Environmental Protection Agency (Illinois EPA) and the USEPA.

The Noveon, Inc. manufacturing plant is located near Henry, Illinois on the Illinois River. The source manufactures organic chemicals, specifically antioxidants and accelerators to be used in the manufacture of rubber and plastics. In addition the source has storage tanks for raw material, intermediates and finished products and also operates a small boiler for process heat, and a wastewater treatment facility.

II. EMISSION UNITS

Significant emission units at this source are as follows:

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---------------------|---|------------------|---|
| EU711-0001 and 0002 | Two MBT-C Reactors and Two Blow Down Tanks | Pre-1972 | Flare CU711-0003 |
| EU711-0006 | NaMBT Reactor | Pre-1972 | Scrubber CU711-0004 |
| EU711-0008 | NaMBT Purification Process Whose Principal Vented Units Include an Extractor, a Surge Tank and a Decanter | 1977 | Vent Head Condenser CU711-0007 Vent Scrubber CU711-0006 with Covered Sump |
| EU711-0009 | NaMBT HAP/VOM Recovery Process Whose Principal Vented Units Include a Recovery Column and Holding Tanks | 1977 | Vent Head Condenser CU711-0007 Vent Scrubber CU711-0006 with Covered Sump |
| EU711-0010 | NaMBT Purification Batch Still Whose Principal Vented Units Include a Batch Still and Receiver Tanks | 1977 | Vent Head Condenser CU711-0007 Vent Scrubber CU711-0006 with Covered Sump |
| EU712-1001 | OBTS/MBDS Reactor 1 | Pre-1972 | Baghouse CU712-1001A (During solids addition) Condenser CU712-1001B (During Reaction) |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---------------------------|--|------------------|--|
| EU712-1002 & EU712-1003 | OBTS Reactor #2 and Wash Tank | | Baghouse (CU712-1001A (During Solids Addition) Condenser CU712-1001B (During Reaction for OBTS or MBDS Running Separately) |
| EU712-1004 and 1005 | OBTS Flash Tank and Flash Tank Receiver (Under Vacuum Pressure) | Pre-1972 | Condenser CU712-1002 (Between Tank and Vacuum Receiver) |
| EU712-1007 | OBTS Product (flakes) Drying and Packaging System with Cyclone CU712-1003 (For Product Recovery) | Pre-1972 | Wet Scrubber CU712-1004 |
| EU712-1011 | Water/VOM Storage Tank (Feed Tank to Recovery Column) | Pre-1972 | None |
| EU712-0012 | VOM Recovery Column, Recovery Condensers and VOM Receiver (Tank) | Pre-1972 | None |
| EU712-1101 (R #1 and 2) | MBTS/MBT-P/MBDS Solids Settling Reactors 1 and 2 | Pre-1972 | None |
| EU712-1102 | MBTS/MBDS/MBT-P Slurry Tank | Pre-1972 | None |
| EU712-1103 | MBTS/MBDS/MBT-P Drying and Packaging System with One Duct Collector for Product Recovery | Modified 1995 | Packaging System Dust Collector CU712-1102 |
| EU712-4001 and 4002 | 50% NaMBT Slurry/Hold Tank and Reactor and Water Condenser | Pre-1972 | None |
| EU712-5001 | 17% Bleach Reactor | Pre-1972 | None |
| EU725-8001, 8002 and 8003 | Reactor, Wash Tank and Crystallizer | 1984 | MeCl ₂ Recovery System (CU725-8001)/Tank Vent Condenser CU725-8002 |
| EU725-8004 | Filter Feed Tank and Sump | 1984 | Cover on Sump |
| EU725-8005 | Product Drying System/Grinder | 1984 | Dust Collector CU725-8003 |
| EU725-8007 | Pelletizing and Drying System | 1984 | Scrubber CU725-8004 |
| EU725-8008 | Pellet and Powder Baggers | 1984 | Baghouse CU725-8005 |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|---|---|------------------|---|
| EU725-8001 and 8003 | BBTS Reactor and Crystallizer | 1984 | VOM Recovery System CU725-8001 (To Sump) |
| EP725-8002 Fed by EU725-8002 and 8004 and CU725-8001 ^b | Sump Fed by Three Liquid Streams (Wash Tank, Filter Feed Tank and VOM Recovery) | 1984 | Cover on Sump CU725-8007 |
| EU712-3002 | AO3A Reactor/Hopper and Condenser CU712-3003 | Pre-1972 | Wet Scrubber CU712-3001 Condenser CU712-3004 |
| EU712-3003 | Slurry Tank and Condenser CU712-3002 | Pre-1972 | None |
| EU712-3005/3006 | Vacuum Stripper/Stripper Receiver, and Condenser CU712-3003 | Pre-1972 | Condenser CU712-3004 |
| EU712-3013 | Phosphorus Trichloride Weigh Tank | Pre-1972 | Vapor Balance Line to Main PCl ₃ Storage Tank |
| EU712-3008 | AO3B and AO3 Reactor with Reflux Condensers CU712-3005 | Pre-1972 | Condenser CU712-3006, Jet Condenser CU712-3008, Wet Scrubber CU712-3007 |
| EU712-3011 | HCl Toluene Tank (AO3 Process Only) | Pre-1972 | Wet Scrubber CU712-3007 |
| EU712-6002 | Makeup Tank (Premix Tank for One Raw Material and Catalyst) | Pre-1972 | Scrubber CU712-6001 |
| EU712-6005 and CU712-6002 | Caustic/Product Decanter/Hold Tank and Vent Condenser (Reflux Back to Decanter) | Pre-1972 | None |
| EU712-6010/6011 and CU712-6007/6008 | Light Distillation Column/Receiver, Van Lube Column/Receiver and Two Condensers | Pre-1972 | Jet Condenser CU712-6009 |
| EU712-6007, CU712-6003/6004 | DIB Column/Receiver, Two Condensers Prior to Vacuum Jet | Pre-1972 | Jet Condenser CU712-6005 |
| EU712-6009, CU712-6006A | Dimmer Column/Receiver, One Condensers Prior to Vacuum Jet | Pre-1972 | Jet Condenser CU712-6006B |
| EU712-6009 | Crude Tank | Pre-1972 | None |
| EU712-6013 | Solidification/Packaging System | Pre-1972 | Dust Collector CU712-6010 |
| EU712-6014 | HAP Storage Tank | Pre-1972 | None |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|--------------------------|---|------------------|---|
| EU722-7003/ 7004/7005 | 3114 Vent Header (All Process Equipment with VOM Vapors are Ducted to this Header) to Vent Scrubber (CU722-7001) which is part of the recovery system | 1977 | Vent Scrubber CU722-7001 |
| EU722-7009 | 3114/3125 Dry Hopper/Packaging System | 1977 | Dust Collector (CU722-7004) |
| EU722-7101/ 7103 | 3125 Reactor/CU722-7101 Condenser/Vacuum Receiver and Thin Film Evaporator/CU722-7103 Condenser | 1977 | Three Condensers in Line, CU722-7102 Cover on Sump CU722-7106 |
| EU722-7004/ 7005 | Crystallizer/Decanter/ Slurry Tank to Sump | 1977 | Cover on Sump CU722-7106 |
| EU722-7008 | Dryers 1 & 2/Condenser CU722-7003/Receiver | 1977 | Condenser (CU722-7105) and Cover on Sump (CU722-7106) |
| WWTF | Wastewater Treatment Facility | Pre-1972 | None |
| Tank 15 | Acetonitrile Storage Tank, 15,000 Gallons, Fixed Roof | 1977 | Submerged Loading Pipe |
| Tank 30 | Carbon Disulfide Storage Tank, 15,000 Gallons, Horizontal | Pre-1972 | Submerged Loading Pipe |
| Tank 31 | Phosphorus Trichloride Storage Tank, 8,000 Gallons, Fixed Roof | Pre-1972 | Scrubber |

III. EMISSIONS

This source is required to have a CAAPP permit since it is a major source of emissions.

For purposes of fees, the source is allowed the following emissions:

Permitted Emissions of Regulated Pollutants

| Pollutant | Tons/Year |
|------------------------------------|-----------|
| Volatile Organic Material (VOM) | 863.72 |
| Sulfur Dioxide (SO ₂) | 4,922.01 |
| Particulate Matter (PM) | 96.00 |
| Nitrogen Oxides (NO _x) | 64.19 |
| HAP, not included in VOM or PM | 46.57 |
| Total | 5,992.49 |

IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois.

All emission sources in Illinois must comply with the federal New Source Performance Standards (NSPS). The Illinois EPA is administering NSPS in Illinois on behalf of the United States EPA under a delegation agreement.

All emission sources in Illinois must comply with the federal National Emission Standards for Hazardous Air Pollutants (NESHAP). The Illinois EPA is administering NESHAP in Illinois on behalf of the United States EPA under a delegation agreement.

V. PROPOSED PERMIT

CAAPP

A CAAPP permit contains all conditions that apply to a source and a listing of the applicable state and federal air pollution control regulations that are the origin of the conditions. The permit also contains emission limits and appropriate compliance procedures. The appropriate compliance procedures may include inspections, work practices, monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis.

Title I

A combined Title I/CAAPP permit contains terms and conditions established by the Illinois EPA pursuant to authority found in Title I provisions, e.g., 40 CFR 52.21 - federal Prevention of Significant Deterioration (PSD) and 35 IAC Part 203 - Major Stationary Sources Construction and Modification. Notwithstanding the expiration date on the first page of the permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 166.

DGP:96030152:psj